

## **Environmental Officials Praise Duxbury for Reducing Pollution**



Selectman Margaret Kearney, Town Manager Rocco Longo and Board of Health Chairman Ruth Rowley, accept a facsimile check representing the state low interest loan of \$679,541 presented by Massachusetts Secretary of Environmental Affairs, Trudy Coxe as EPA Administrator John DeVillars applauds. The official presentation to the Town of Duxbury took place at noon on July 24, 1996 on the banks of the Bluefish River.

# Bluefish River Septic System Remediation Project

Massachusetts Secretary of Environmental Affairs Trudy Coxe and U.S. Environmental Protection Agency Regional Administrator John DeVillars last week recognized the creative work of Duxbury town officials to eliminate pollution from failing septic systems in the Bluefish River and Snug Harbor. Secretary Coxe presented town officials with a mock check, symbolizing a low-interest loan of nearly \$680,000 from the State Revolving Fund to help pay the construction costs.

"Duxbury has shown commendable creativity and ingenuity in making use of the Title 5 revisions which for the first time allow the use of shared systems to upgrade failing septic systems," said Secretary Coxe. "And the improvement in water quality that will follow is likely to allow us to eventually reopen more than 85 acres of shellfish beds that have been closed because of contamination."

"If you like clams and clean beaches, you've got to love what we're celebrating today in Duxbury," said John DeVillars, administrator for EPA's New England office. "EPA is committed to helping Massachusetts communities protect water quality and reopen shellfish beds through creative solutions to septic system problems. This project to protect the Bluefish River and Snug Harbor, underwritten with federal and state funds, is an important part of that effort. It's a true reflection of how communities like Duxbury are bringing local ingenuity to protect their environment and preserve their quality of life — working with EPA, the Commonwealth and others to get the job done."

The town installed 2 shared septic systems to replace many individual failed systems that have been contributing to pollution of the Bluefish River and Snug Harbor. The SRF loan is the first to be approved under new regulations which allow SRF money to be applied to non-point source pollution projects like septic systems. The interest rate on the loan is just half the market rate, resulting in a considerable savings to the

town. The property owners who will be connected to the 2 systems will pay back the town through betterments on their tax bills.

A \$32,000 grant from the Massachusetts Bays Program helped the towns of Duxbury, Kingston, and Plymouth identify the Bluefish River as a high priority site for remediating pollution, and to devise a solution for eliminating sewage pollution that was getting into the river from 3 properties on Washington St.: 2 private homes and the Duxbury Rural & Historical Society. In a commendable demonstration of public/private cooperation, the South Shore Conservatory of Music, whose septic system also needed upgrading, allowed the town to build a shared system on its property nearby. Sewage from all the properties now travels through a pipe to a common septic tank and a shared leaching field.

A similar system was built at Snug Harbor to service 19 landowners with failing systems, many of them businesses. The shared collection tank and leaching field have been installed on a nearby golf course owned by the Duxbury Yacht Club.

Shellfish harvesting is a commercial and recreational staple in the Town of Duxbury, with approximately \$700,000 worth of shellfish harvested annually. It is expected that the 85 acres in these 2 areas alone hold more than \$240,000 worth of softshell clams.

## A Problem with a History

Shellfish harvesting has long been a commercial and recreational staple in the town of Duxbury. Approximately \$700,000 worth of shellfish are harvested annually. However, these shellfish beds are being threatened by bacterial contamination. The Massachusetts Division of Marine Fisheries (DMF) closed portions of the softshell clam beds at the mouth of the Bluefish River in 1984 and 1991 due to high fecal coliform bacteria counts. Today, 85 acres remain closed containing an estimated \$244,000 worth of shellfish.

Because of the importance of shellfishing in Duxbury, researchers from the DMF walked the shores and tested the waters of the Bluefish River searching for sources of bacterial contamination. The scenic Bluefish River is a shallow, mile-long tidal river that drains into the northwest portion of Duxbury Bay, which forms the northern part of the tri-town Duxbury, Kingston, Plymouth embayment. Much of the river is surrounded by marshes that the town has set aside for wildlife conservation. But the watershed also contains residential and light commercial areas, all of which are potential pollution sources.

The researchers found that the highest concentrations of bacterial pollution were originating from 3 buildings on Washington St. at the mouth of the Bluefish River. All 3 buildings, 2 of which are residential, are of historical significance. The Cable House, built in 1869, served as the terminus for the French Atlantic Cable. The Drew House, built in 1826, is now the headquarters of the Duxbury Rural & Historical Society. Unfortunately, the houses are built on filled salt marsh which floods regularly, overburdening their septic systems, and sending sewage into the river. The problem was severe enough that the DMF closed the shellfish beds at the mouth of the river until the septic systems could be fixed.

## Seeking a Solution

Because the houses were built on a salt marsh, the owners could not hope to construct a septic system that would meet minimum wetlands setback or groundwater separation regulations. Therefore, the town was faced with either declaring these historical buildings uninhabitable, or constructing a costly system to pump the effluent from the buildings away from the river basin. They decided on the latter option. In 1993, the Baywide Committee, an advisory committee comprised of representatives from Duxbury, Kingston, and Plymouth, received a \$32,000 grant from the Massachusetts Bays Program to review a list of preferred alternatives and to design and bid the preferred alternative to eliminate the pollution and hopefully allow the town to reopen the shellfish beds.

## Sharing Remediation

The town chose to build a "shared" sewer/septic system designed by Weston and Sampson Engineers Inc. of Peabody. Effluent from the 3 buildings will first flow down to a grinder pump. The pump sends the ground-up sewage through a 2.5 inch pressure main to a septic tank. A pressure dosing system will distribute effluent

throughout the leaching field.

To proceed with the project, the town needed the cooperation of local land owners. The nonprofit South Shore Conservatory of Music, whose system also required upgrading, generously allowed the town to use its property as a leaching field. The town also has worked out easement and covenant agreements with property owners whose land the system will traverse.

The Duxbury Town Meeting authorized a \$150,000 bond to construct the new system. The town will fund 25% of the cost through increases in shellfishing license fees. The owners of the 3 houses will pay back the remaining costs through betterments assessed to their property. Construction was completed in June 1996.

#### **Planning for the Future**

Capitalizing on its new knowledge and experience, the town has also built a similar shared septic system at Snug Harbor. Like the Washington St. houses, the properties are built on reclaimed marsh land where the water table is high. Sewage from these buildings will be pumped to a leaching area underneath a local golf course.

Construction of this system began at the same time as the Washington St. project. It will be funded completely by betterments assessed to the properties involved.

#### **Your Role**

Nonpoint source pollution includes the pathogen pollution discussed above plus toxics from other sources, such as motor oil. It is a product of our modern lifestyles. There is a lot that you can do to ensure a cleaner and healthier coast by making simple changes in your daily habits. Please help us reduce nonpoint source pollution now.

- Maintain your septic system.
- Encourage your community to protect land close to waterways to catch rain and to filter polluted water.
- Properly dispose of used motor oil.
- Always use pump-out stations to dispose of boat sewage, and never throw garbage overboard.
- Replace toxic chemicals you use in your home, on your yard, and at work with environmentally safe alternatives.
- Limit impervious surfaces in your yard.

*(The above article was submitted by The Massachusetts Bays Program, of Boston. The program is a cooperative venture of the Massachusetts Executive Office of Environmental Affairs, Office of Coastal Zone Management and the U.S. Environmental Protection Agency of New England. — Ed.)*